



PRENATAL ULTRASOUND FINDINGS

Mild Ventriculomegaly

Ultrasounds are routinely done during pregnancy to provide information about your developing baby. However, sometimes the ultrasound finds something a little different than usual in the baby. This fact sheet will give you information about a finding known as **mild ventriculomegaly**.

What is mild ventriculomegaly?

Ultrasound is used to measure many parts of the developing baby. During the second trimester of pregnancy, the fluid-filled spaces located in the baby's brain are routinely measured. These spaces are called ventricles. There is one pair of ventricles, near the center of the brain, called the lateral ventricles. The lateral ventricles usually measure less than 10 mm (about ½ inch) each.

Mild ventriculomegaly means that one or both of the baby's lateral ventricles are slightly larger than usual. Ventricles measuring between 10 to 15 mm are called "mild" ventriculomegaly. Mild ventriculomegaly is different from the more severe form of ventriculomegaly, hydrocephalus or "water on the brain". About 1 in every 500 babies will have mild ventriculomegaly. In most cases, babies with this ultrasound finding are born healthy.

What causes mild ventriculomegaly?

Some babies have ventricles that are naturally a little larger. That leaves room for more brain fluid (cerebrospinal fluid) than usual. Less often, ventriculomegaly can be due to changes in the normal flow of brain fluid or changes in the development of the brain.

The ventricles are connected to the spinal cord and the covering of the brain. These connections let fluid flow through the baby's brain and spine. If fluid is not flowing in the usual way, it can build-up in the ventricles. In other cases, a problem in the way the brain formed leaves extra space for the fluid in the ventricles. Most of the time, the exact cause of ventriculomegaly cannot be found.

Can mild ventriculomegaly cause problems for the baby?

Many babies with mild ventriculomegaly will NOT have problems; however, as the ventricle size gets larger, the chance for problems increases. The type of problems found in some babies with mild ventriculomegaly includes:

- **Birth defects:** Babies with mild ventriculomegaly are more likely to have physical birth defects, such as heart, kidney, or spine abnormalities. Finding any physical birth defect adds concern for a possible chromosome condition or genetic syndrome in the baby.
- **Chromosome conditions:** Chromosome conditions, like Down syndrome, are found more often in babies with ventriculomegaly. The reported risks range from 3% to 10% when there is just ventriculomegaly. The chance for a chromosome condition can be higher when there are other ultrasound findings. The chance for a chromosome condition might be lower if you had normal results from a prenatal screening test.
- **Infections:** Some infections during pregnancy can interfere with the baby's brain development. Infections can affect the baby even without obvious signs of illness in the pregnant woman. Cytomegalovirus (CMV) and toxoplasmosis are the two infections most likely to cause ventriculomegaly.
- **Genetic syndromes:** There are many different genetic syndromes that can lead to large ventricles. Most of these conditions are very rare and are often difficult to diagnose before a baby is born.

- **Brain development problems:** For some developing babies, ventricle enlargement is a sign of general problems with brain development. This may affect how the brain works. Babies with mild ventriculomegaly usually will have normal learning and development. However, there is a higher chance for learning problems, ranging from minor delays in development to severe intellectual disabilities. Problems with brain development are more likely when the ventricles measure more than 12 mm.

Note: In some studies, ventricle size between 12 mm and 15 mm is called “moderate” ventriculomegaly.

Will I be offered special testing?

Yes. When ventriculomegaly is seen during the second trimester of pregnancy, further testing is offered.

Ultrasound: A high resolution (level II) ultrasound is recommended. This ultrasound checks the baby for any other ultrasound findings or birth defects. Ultrasound is able to find some birth defects, but not all birth defects can be seen during pregnancy, even with a high resolution ultrasound.

Amniocentesis: Another test that may be offered is amniocentesis. Amniocentesis is done by using a thin needle to remove a small amount of the amniotic fluid surrounding the baby. This fluid is tested for chromosome abnormalities and prenatal infections. There is a small risk for miscarriage with this test.

Fetal MRI: Magnetic resonance imaging (MRI) is another way of looking at the baby's brain before birth, and it may be offered to you. Like ultrasound, it does not involve radiation, and it is felt to be safe in pregnancy.

Does ventriculomegaly go away?

The ventricle size usually either stays the same or gets smaller later in pregnancy. The ventricles may even return to a normal size, in some cases. However, about 1 in 10 babies with mild ventriculomegaly (10%) have the ventricles get larger. This increases the concern for related problems.

What if all the test results are normal? Babies with mild ventriculomegaly and normal test results are usually born healthy. However, there are many different reasons for ventriculomegaly and it is not possible to identify all problems during pregnancy. So, testing cannot guarantee that your baby will be completely healthy.

Where can I get more information?

Your genetic counselor or medical geneticist can answer additional questions you may have about this ultrasound finding.

Kaiser Genetics Departments

Fresno	(559) 324-5330
Oakland	(510) 752-6298
Sacramento	(916) 614-4075
San Francisco	(415) 833-2998
San Jose	(408) 972-3300

References:

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- Melchiorre et.al, Counseling in isolated mild fetal ventriculomegaly *Ultrasound Obstet Gynecol* 34:212-224 (2009)
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